

Assessing the reliability and validity of a physiotherapy functional measurement tool, the modified Iowa Level of Assistance scale, in acute hospital inpatients.

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Aim: To assess inter-rater reliability, known-group validity and responsiveness of the modified Iowa Level of Assistance (mILOA) in acute hospital inpatients.

Background: Outcome measures are integral to assessing the effectiveness of treatments, with the aim of improving patient and hospital outcomes. Functional outcome measurement tools exist for individual diagnoses (eg stroke), but currently no prospectively validated mobility measure is available for physiotherapists' use across the breadth of acute hospital inpatients. The modified Iowa Level of Assistance (mILOA), a scale measuring assistance required to achieve functional tasks, has demonstrated functional change in orthopedic and trauma inpatients, although its psychometric properties are unknown.

Methods: One hundred and fifty two functionally stable inpatients across five clinical groups at a large teaching hospital in Melbourne, Australia were recruited. Each patient had a mILOA score calculated during two independent physiotherapy sessions, to assess inter-rater reliability. Known-group validity ("ready for discharge" / "not ready for discharge") and responsiveness were also assessed.

Results: Mean age of participants in the reliability study was 62.5 years (SD 17.7). The inter-rater reliability was excellent ($ICC_{2,1} = 0.975$, 95%CI: 0.965 - 0.982) with the mean difference between scores of -0.270 and Limits of Agreement of +/-5.64. The mILOA score displayed a mean difference between two known groups of 15.3 points (p value <0.001). Responsiveness was demonstrated with a minimal detectable change (MDC_{95}) of 5.8 points.

Conclusions. The mILOA has excellent inter-rater reliability, good known-group validity and is responsiveness to functional change across acute hospital inpatients with a variety of diagnoses. It may provide opportunities for physiotherapists to collect a functional outcome measure to demonstrate effectiveness of inpatient therapy and allow for benchmarking across institutions.

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